

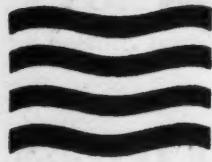
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AMERICAN FRUIT GROWER



FEBRUARY

1933



1933 FRUIT CROP OUTLOOK
OIL EMULSIONS FOR SCALE ON PEACH
QUALITY FRUIT PRODUCTION
APPLE MARKETING GIVES UNEMPLOYMENT RELIEF

TEN
CENTS
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EDITORIAL

ON ACCOUNT of circumstances quite beyond control of the present publishers of AMERICAN FRUIT GROWER, the issues for the months of January and February have been mailed at a date unusually late. It is believed that most of the difficulties that appear to beset the paths of agricultural publications during these trying times are, in the case of this journal, in fair prospect of solution.

The issue of AMERICAN FRUIT GROWER for March will immediately follow this issue and should be in the hands of our subscribers within three weeks. Under plans as contemplated at present, the remaining issues of 1933 will consist of three quarterly numbers, one each for Spring, Summer and Fall, making a total of six magazines for the year.

It is the hope of the publishers to restore the monthly issuance of this magazine at the earliest possible date, but it is believed that for the present the magazine can best serve the fruit industry by appearing monthly for the first three months of the year and quarterly for the remainder of the year. Needless to state, every effort will be made to fill these quarterly issues with material that is most timely for the period of the year covered by each issue.

During the period it is found necessary to issue the magazine six times a year the subscription price will be reduced to 25 cents a year to domestic addresses.

THE RAPIDITY with which successive blows at the existing economic order have fallen during recent days gives hope that at last we may be nearing the end of the great depression, if indeed we have not actually reached the bottom.

Before these words appear in type the country may have left the gold standard. In the case of other countries where this bold step has been taken it was followed by a raising of price levels and a noticeable resumption of industrial activity.

Much of this activity, in the case of other countries, was due to the fact that it was possible in such cases to increase imports to America—the exchange rate offsetting our tariff levies—thus stimulating industry in those countries at the expense of American enterprise. American desertion of the gold standard would at least plug this hole in our defenses, and may do a good deal more.

The American fruit industry has been at a particular disadvantage in the export markets from unfavorable exchange rates against foreign currencies. This situation, if restored to normal by a revaluation of foreign currencies, may reopen some desirable markets for American fruits relieving the pressure of overproduction in the home markets and sending upward the levels of fruit prices.

With the abandonment of the gold standard by this country, succeeding events may prove we have held to this standard too long, perhaps for a year longer than was necessary or desirable.

THE 1933 OUTLOOK FOR FRUIT CROPS

FOR THE country as a whole there are sufficient fruit trees to produce continued heavy commercial supplies in years of favorable weather conditions. The low prices during recent years are resulting in some neglect of trees and, if they continue, may be reflected in curtailed production within a few years. Production costs have been reduced but rail freight rates have not been lowered materially and for many growers, particularly those located at considerable distance from market, the transportation charges constitute a large part of the low current market price. Growers within a few hundred miles of their markets are making greater use of the motor truck in marketing. The export outlook for fruits is uncertain and is complicated by such factors as the prospective increases in foreign fruit production, increased tariffs, import restrictions, depreciated exchange, and general business conditions.

The combined production of the 10 more important fruits has been increasing at an average of about one per cent annually for the last 10 years. As the result of unfavorable weather conditions during 1932 and the tendency toward alternate bearing of some of the fruits, the combined production in 1932 of 10 of the more important fruit crops

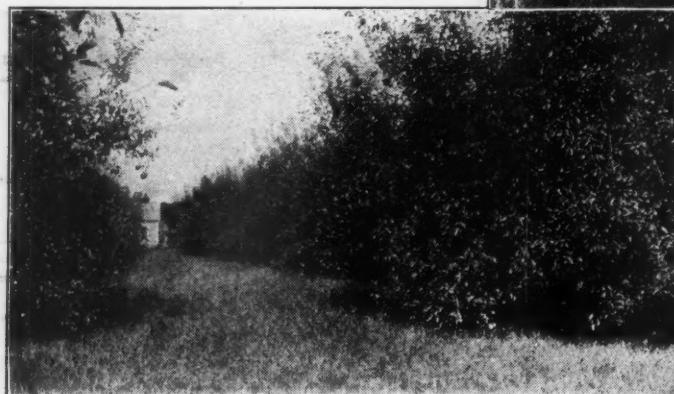
Farm prices of fruits have declined steadily since 1929 and in 1932 reached the lowest level in at least 10 years. These price declines were largely the result of reduced consumer purchasing power, some reduction in foreign demand, and the general decline in commodity prices.

The precipitous price decline since 1929 placed fruit producers in a decidedly difficult position. Costs, for the most part, remained high relative to returns for the product. In the 1932-33 season, however, production costs, with the exception of rail freight rates, had been lowered considerably and many growers who were located relatively near the markets and had moderate transportation costs found even the low prices for fruit yielded some margin over cash expenses of production. For many producers far distant from market the situation during the 1932-33 season is proving even worse or at least no better than during the two years preceding. In these areas transportation costs are such a large proportion of the total production and marketing cost that savings in expense, such as for labor, spray material, and machinery, are of relatively minor importance.



Low fruit prices over the past three years have resulted in the abandonment or neglect of a number of orchards, especially in regions distant from market.

In other cases, in locations near to markets, production is being stepped up by improved cultural practices, spraying and pruning.



was about 10,245,000 tons, which is about 15 per cent less than the quantity produced in 1931, 13 per cent less than that in 1930, but about 12 per cent more than the crop of 1929. Comparisons of the size of the individual crops produced in 1932 with the size of these crops in 1931 show the following crops to be smaller by the following percentages: Apples about 31 per cent, peaches 40 per cent, pears 6 per cent, dried prunes 15 per cent, oranges 2 per cent, grapefruit 13 per cent, and lemons 10 per cent. On the other hand, the following crops were larger by the following percentages: Grapes 33 per cent, fresh prunes 31 per cent, and cherries 14 per cent.

Production of all citrus for the five years 1919-1923 averaged 27 pounds per capita as compared with 42 pounds, the average for the period, 1927-1931. Orange production increased from 19 pounds per capita in the former period to 29 pounds in the latter; grapefruit increased from 5 pounds to 9 pounds, and lemons from 3 pounds to 4 pounds. A similar comparison for other fruits shows that apples declined from an average of 77 pounds per capita in the period 1919 to 1923 to an average of 64 pounds in the five years 1927 to 1931, and grapes declined from 39 pounds to 36 pounds, largely as the result of the short 1931 crop. Peaches increased from 21 pounds to 23 pounds and pears, from 7 pounds to 10 pounds, thus making a net increase for these seven fruits from 195 pounds to 205 pounds. Imports of bananas averaged 24 pounds per capita in the period 1919-1923 as compared with an average of 30 pounds for the last five years (1927-1931).



In the better portions of those sections close to market centers there has been, as yet, little or no abandonment of orchards; neglect has not been serious. In the sections more distant from the large markets there has been some abandonment and neglect in the case of certain fruit crops. If present conditions continue for some time to come, tree neglect, removal, and abandonment, may become general, thereby reducing the potential producing capacity in the fruit industry and thus reducing supplies. Even though business conditions should improve materially in the near future, efforts of European countries to expand and modernize their fruit industries will mean that the expected increasing supplies of those fruits of which there is an export surplus in this country will meet with increasing competition from foreign sources. This suggests the continuation of difficulties in the marketing of large fruit crops in this country.

OIL EMULSIONS FOR SCALE ON PEACH TREES

By OLIVER I. SNAPP

LUBRICATING-OIL emulsions have come into general use for the control of the San Jose scale on deciduous fruit trees. When they were first recommended some growers doubted their safety on peach trees, and as a consequence experiments on their use on peach trees were started during the fall of 1922 at Fort Valley, Ga., by the U. S. Bureau of Entomology. The same trees were treated with the emulsion yearly for eight consecutive years, with no discernible injury to the buds, twigs, or collars, and with excellent scale control. Therefore, its use with safety on peach trees is assured.

Since lubricating-oil emulsion is not caustic it is easier to handle than lime-sulphur, and since spray men will not be trying to dodge a charge of it, a more thorough job of spraying can be accomplished. Furthermore, it is not so hard on spray machinery, harness, and clothing as the caustic sprays. Lubricating-oil emulsions can be used earlier in the dormant season in the South than lime-sulphur, as bud wood before it is hardened by cold weather does not seem to be affected by the emulsion. They should not be used while the trees are in foliage, as the leaves interfere with spraying the twigs, and furthermore partial defoliation will result.

A three per cent lubricating-oil emulsion is recommended on peach trees in the South. Manufacturers are placing on the market concentrated lubricating-oil emulsions containing from 66 2/3 to 83 per cent of oil by volume. Most of the concentrates sold in the South contain approximately 66 2/3 per cent of oil, and to make a three per cent emulsion, nine gallons of such a concentrated emulsion to 191 gallons of water should be used. Growers should know the oil content of the stock emulsion used so they can dilute it correctly to a three per cent strength. They should insist that it contain at least 66 2/3 per cent of oil by volume. The concentrated material should not be carried over from one season to another, as most emulsions break down with age, liberating free oil which is injurious to the trees.

Home-Made Emulsions

Lubricating-oil emulsions can be made on the farm somewhat cheaper than the manufactured material can be purchased. They can be made by three methods, namely, hot-pumped, cold-pumped, and cold-stirred.

Hot-pumped Method:

Lubricating oil (either paraffin or asphaltum, base, with viscosity of at least 125 seconds, Saybolt, at 100° F., and volatility (loss for 4 hrs. at 105° C.) of not more than 1.75 per cent) 2 gals. or 30 gals.
Potash fish-oil soap 2 lbs. or 30 lbs.
Sufficient water added to make volume 3 gals. or 45 gals.

Place the ingredients in a kettle and boil for a few minutes until the brown scum, which forms on the top, has disappeared. Then remove the kettle from the fire and pump the contents twice under at least 60 pounds pressure while still hot. The emulsion prepared in this manner should be used shortly after it is made.

To make the hot-pumped emulsion on a large scale, a boiler should be used to boil the ingredients, which should then be pumped through an all-metal triplex pump developing at least 250 pounds pressure. If pumped four times under at least 250 pounds pressure, this emulsion will hold up during the entire dormant spraying season or longer.

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This stock emulsion contains 66 2/3 per cent of oil, and to make a three per cent emulsion for use on peach trees, nine gallons of it should be diluted with 191 gallons of water.

Cold-pumped Method:

Some growers prefer this type of emulsion, as it is easier to make and requires no equipment except the usual power spray outfit with suction attachment. It is made as follows: Add four pounds of calcium caseinate with thorough and rapid stirring to sufficient water to make two gallons. Pour this mixture with constant stirring into 13 gallons of additional water in a 50-gallon barrel. Then add 30 gallons of lubricating oil (either paraffin or asphaltum base, with viscosity of at least 125 seconds, Saybolt, at 100° F., and volatility [loss for four hours at 105° C.] of not more than 1.75 per cent). Then place the suction hose of the spray outfit in the barrel and start the motor. When the pressure registers 250 pounds, allow the ingredients to be sucked through the pumps and forced out through one or both spray rods, either with disks removed or with disks having a 3/16 inch aperture, into another 50-gallon barrel. The emulsion should be passed through the pumps under pressure three times, and should be used within a week or 10 days after it is made, so as to avoid separation of free oil from the emulsion. If it breaks down, which is indicated by free oil coming to the top, it can be readily re-emulsified by pumping.

This stock contains 66 2/3 per cent of oil, and 9 gallons of it to 191 gallons of water is the strength that should be used on peach trees. (Caution: In using this formula, do not begin with oil and add water, as an emulsion useless for spraying will result.)

Cold-stirred Method:

This type of emulsion differs from the hot-pumped emulsion only in the method of manufacture, requiring neither heat nor pumping. The method consists of repeatedly adding small quantities of oil to the soap, and thoroughly stirring in each addition of oil before the next is added. When the required amount of oil is thus worked in (one gallon of lubricating oil,

either paraffin or asphaltum base, with viscosity of at least 125 seconds, Saybolt, at 100° F., and volatility [loss for four hours at 105° C.] of not more than 1.75 per cent, to each pound of potash fish-oil soap), a stiff jelly-like mixture is formed. Water is then slowly added, with constant stirring, until the finished emulsion contains 66 2/3 per cent of oil by volume. This emulsion is then diluted at the rate of 9 gallons to 191 gallons of water for a three per cent strength, which is recommended for San Jose scale control. If a good soap has been used, and thoroughly stirred, this emulsion is nearly as stable as the hot-pumped emulsion. Only potash soaps without excess of caustic potash should be used as an emulsifier for this type of emulsion, and it should always be made at temperatures between 50° and 80° F. The appearance of free oil in the mixture indicates that it has not been properly emulsified, and should be discarded or worked over again by starting with a little more soap and repeatedly adding small quantities of the mixture, thoroughly stirring in each addition before the next is added.

Application

One thorough application of lubricating-oil emulsion is usually sufficient for satisfactory scale control; however, if necessary, a second application may be used during one (To Page 14)



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QUESTIONS AND COMMENT

Conducted by T. J. TALBERT

Questions on fruit growing problems and on general horticulture will be answered through this department if of general interest. For reply by mail enclose 3c stamped envelope (air mail 8c). Address AMERICAN FRUIT GROWER, 75 West Van Buren Street, Chicago.

Blister Canker

I have Red Delicious apple trees that have a bark disease. This starts with a thin bark about as thick as paper. Later on it splits open and rolls back about one-fourth inch in diameter. It is brown in color. The bark on the trees is over one-eighth inch thick. I cut through the bark several places where it was blistered and I found brown streaks which look like brown thread in the bark. Later on the bark will turn brown on the inside and die. It starts in the trunk and later on gets in the large limbs. I would like to know the name of this bark disease.—A. B., Indiana.

THE description which you give of the bark disease of your red Delicious apple trees indicates an attack of the fungous disease known as blister canker.

This is a wound parasite. As the name indicates, therefore, the entry of the fungus is usually through an abrasion in the bark or where a limb has been removed.

The best methods of control and prevention consist of keeping the trees in a fairly vigorous condition. Moreover, it is important that few large wounds be made upon the trees as a result of pruning. When it is necessary to remove a branch, the cut should be made smooth and close and the wound disinfected with copper sulphate at the rate of one pound to four or five gallons of water and then painted with ordinary house or barn paint, parawax, or grafting wax.

Budding Peaches—Whitewashing Trees

Am planning on increasing my peach orchard by budding my own trees and would appreciate your answering the following questions:

1—Are seeds from common peaches any better to plant than seeds from budded peaches?

2—What are the advantages or disadvantages of planting peach trees in the bud, that is, setting them the next spring after they are budded?

3—Does whitewashing trees in early spring retard blooming enough to pay in a commercial orchard? If so, when should it be done? Could the whitewash be combined with Bordeaux for control of leaf curl?—R. F., Ohio.

SEEDS from common seedling peach trees generally give somewhat better results in producing seedling stock for budding peaches than the seed produced from budded stock.

Where the season of growing is of sufficient length to produce a tree of moderate size which was budded in June, there is no serious objection to planting such trees the following spring after budding. It is true, however, that most peach buds are placed in the seedling stock during the months of July and August. These buds continue growth the following season and the trees are sold in the fall of that year or in the following spring.

Whitewashing in late winter or early spring before growth starts may retard the growth of deciduous trees anywhere from two or three days up to as much as four or five days. It is important that the whitewash be applied before any growth starts and if the same

does not adhere to the trees more than one application should be made. In other words, it is important that the buds and branches of the trees be kept covered with the whitewash material.

Bordeaux made according to the 3-4-50 formula gives the trees a white color and may serve very well to hold the trees back a day or two or more. If this spray is applied before new growth starts, it is effective in controlling peach leaf curl.

Making Lime-Sulphur

Noting your answer to O. W. J., Illinois, thought that I might get some help from you or some growers on making lime-sulphur solution. I have gone to a great deal of trouble in fixing for open kettle cooking of lime-sulphur and can cook from 300 to 400 per batch with a small cistern to quickly run off when cooked.

My trouble is in not being able to get uniform batches and the solution going out of suspension to such an extent that it is unprofitable to make over buying the ready made.

As suggested in your answer, I have found 50 pounds lime, 100 sulphur, 50 gallons water formula, making the lower Baume test, the most satisfactory for home making. But my great trouble is in keeping down precipitation and losing whole batches.—C. R. McC., Kentucky.

IT is possible that your difficulty in the manufacture of home-made lime-sulphur solution arises out of the kind or grade of lime which you have been using. Since different limes behave differently with water, it is often advisable to test a sample before proceeding with the actual cooking operation. Moreover, it is often advisable to have lime samples tested before making purchases. The analysis may be obtained from the State agricultural experiment station and perhaps through other agencies.

The coarse sediment is of no use for spraying purposes, but if it should contain a considerable amount of uncombined sulphur, it may be recooked with the next batch. In well prepared solutions, however, the amount of uncombined sulphur is usually small.

Should you continue to have difficulty in the manufacture of lime-sulphur solution, it will perhaps be better, as you have suggested, to purchase the product ready made.

White Grub Worm

Is there any way to get rid of white grub worms? It is almost impossible for me to raise strawberries on account of the grubs. Please let me hear from you at once.—H. J. K., Indiana.

THE white grub may be controlled through a number of cultural practices; such, for example, as the establishing of a system of rotation of crops, using particularly such crops as small grains that are not seriously injured by the grubs.

The beetles may also be destroyed in their pupal cells in which they over-winter by deep thorough plowing in the fall or early winter. Moreover, swine if confined on soil

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infested by the white grub will do much toward destroying the pest. Flocks of chickens or turkeys on plowed or cultivated ground may also assist materially in ridding the soil of the grubs.

Pollinating Baldwins

I intend to set out 300 Baldwin apple trees this spring. Should I include some other variety for pollinating purposes? If so, what varieties would you suggest? —J. F. B., Pennsylvania.

IT is our thought that you should find the Delicious (Starking or Richared), Jonathan, York, Golden Delicious, and Grimes Golden satisfactory pollinators for the Baldwin apple under your conditions.

If you plant one or more other varieties with the Baldwin apple, it is suggested that the planting be arranged in blocks of about three rows of the Baldwin and one row at least of Jonathan or some other variety used as a pollinator.

Orchard Lease

I am thinking of leasing some apple orchards and should like to have you advise me what would be a fair rental or share of fruit on trees at picking time to property owner, considering the high cost of machinery, gas, oil, fertilizers, and spray materials, against the low market value of apples.

Will you please outline for me what you think would be a fair basis for rental of this kind of average orchards? —C. M. H., Virginia.

A FAIR rental or share of the fruit crop from an apple orchard may depend upon a number of factors. The person who leases the orchard may receive all the way from one-third to one-half the crop depending upon what the owner of the orchard furnishes in the way of spraying equipment, spraying chemicals and assistance at harvest time.

It may be necessary for the renter to furnish all labor, equipment and supplies other than fertilizers necessary in growing the crop to and including the picking. If part or all of the equipment is furnished by the orchard owner, allowance may be made accordingly in the division of the fruit. The renter may bind himself to prune and spray the orchard and use every cultural practice to maintain it in good condition regardless of set of fruit.

In this case, perhaps the best division should be based on a division of the picked fruit with two-thirds going to the renter and one-third to the orchard owner. This divides the hazards connected with the business more equally than cash payments.

Cottonwood Trees

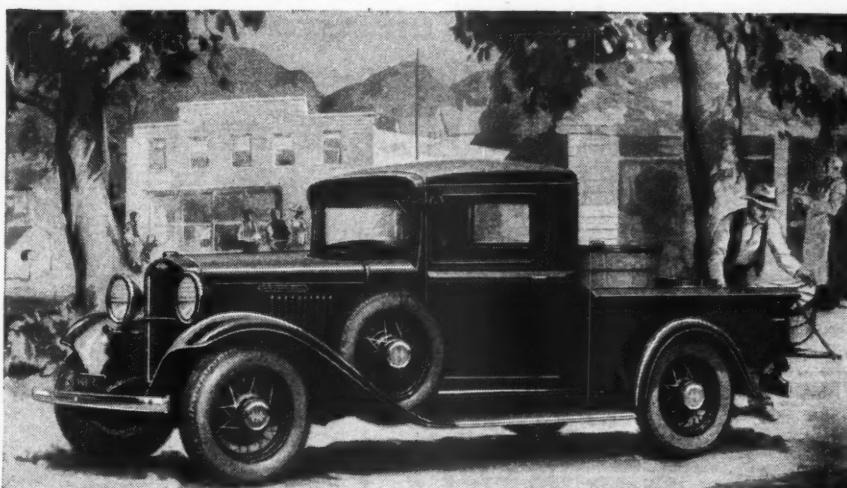
Do you know of any way to stop cottonwood trees from bearing cotton? If so, kindly advise us. —M. B., New Mexico.

THERE is no practical and economical way known at the present time to prevent cottonwood trees from bearing bloom and at the same time preserve the health and vigor of the trees.

Some have suggested that by means of power sprayers, a caustic application might be used just preceding the blooming period and through this application kill the young leaves and flowers of the trees before the so-called cotton which is shed from the bloom is developed. This might prove effective, but it would be expensive to make the application and there is danger of doing injury to the trees.

AMERICAN FRUIT GROWER

Page 7



Here It Is!

The New Half-Ton, 6-Cylinder International Model D-1 Truck

THIS announcement will be welcome news to thousands of dairymen, fruit growers, truck gardeners, merchants, and general delivery men. They have long looked for a half-ton model from International Harvester. They have missed International quality in the low-price field.

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Liquid Bait for Japanese Beetles

JAPANESE beetle attractants are more effective in liquid than in solid form, according to the Bureau of Entomology, U. S. Department of Agriculture.

Geraniol and eugenol, liquid constituents of certain plants having a strong lure for many insects, are the attractive ingredients of the most satisfactory baits for Japanese beetle traps. Bran, molasses, glycerin, and water are added to make the solid bait commonly used for the last few years. This solid bait, however, gradually loses its potency in standing. Recent studies have shown that a mixture of one part of eugenol and 10 parts of geraniol when vaporized by a wick of the type used in alcohol lamps volatilizes at full strength as long as it lasts. The liquid bait also is easier to handle and ship than the bulky solid bait.

The Plant Quarantine Bureau of the department plans to use the new liquid bait in most of the 56,000 Japanese beetle traps to be set out next summer. These traps are designed, not to control an infestation, but to check up on the presence or absence of this dangerous insect pest. Federal plant quarantines are imposed or removed and special control measures are adopted on the basis of information collected by trapping.

Motor Trucking to Los Angeles Increasing

SEVENTY per cent of all fruits and vegetables unloaded in Los Angeles markets last year was carried by motor truck, an increase of 5.7 per cent over 1931, reports the agricultural department of Los Angeles Chamber of Commerce. The chamber says that according to a recent report of the Federal-State market news service, 88 per cent of the fruits and vegetables consumed in Los Angeles last year was produced in California and over 50 per cent within 100 miles of the city. The total consumption was 61,997 car-loads.

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"Paint" Tops of Roosts
No handling of birds

The 1933 Apple Outlook

THE DEPRESSION, now three years old, is beginning to have its effects on the physical condition of the orchards. Accumulated financial burdens incident to low returns and to depletion of cash reserves for production purposes are perhaps more generally felt at this time than at any time for many years. Already there are indications that if the depression continues for several years, neglect of orchards will become rather general and eventually may result in considerable abandonment.

As yet there has been no shortage of apples in years of favorable growing conditions; nor is there any immediate prospect for a shortage. In fact, commercial production, which may be more significant than total production, increased for several years to a peak of 39,000,000 barrels in the very favorable growing season of 1926. Since then it has averaged somewhat higher than for the five years previous to 1926, and the 1931 commercial crop was the fourth largest on record. It is believed that the number of young trees now in commercial orchards would maintain commercial production at a high level for several years, under conditions of average care. The extent of future neglect and abandonment of orchards, therefore, is likely to be the major factor influencing the size of the commercial crop.

The following statement briefly presents the apple situation in the Western, Central, and Eastern apple States. Further details are contained in the 1932 outlook report.

About 20 years ago, the 11 Pacific Coast and Mountain States produced 19,000,000 bushels of apples per year, whereas they now produce an average of about 56,000,000 bushels annually, an increase of about 195 per cent. At the same time the number of bearing trees increased 10 per cent, and yield per bearing tree increased from an average of 1.5 bushels to about 4.3 bushels. In these Western States production now is apparently close to its peak for the present cycle. In the Pacific Coast States as a group, a very small percentage of the trees are yet to come into bearing and production is being fairly well maintained by tree resets and by an increase in producing capacity of trees due to an increase in their age. In the Rocky Mountain States as a whole production is declining.

Plantings in all of the Western apple States have been very light during late years. In the better commercial areas, orchards are generally well cared for, but considerable neglect, and at least temporary abandonment, is expected if present economic conditions continue long. Low prices for apples are increasing the difficulty of Western growers in marketing. Transportation charges for apples from the Northwest to distant domestic markets are now consuming a large part of apple values, making it difficult for Western growers to compete successfully with producers near the large consuming centers.

The Central States as a whole now contain about 43 per cent of the total number of apple trees in the United States and produce about 24 per cent of the apples. From 1910 to 1930 the number of trees decreased about 60 per cent and production decreased 42 per cent. A large part of the decrease in tree numbers came in the first half of the period, 1910-1930, and many of the orchards now remaining are well supplied with young trees, many of which were planted during the last 15 years. According to census figures nearly one-third of the trees in these States had not reached bearing age in 1930 and according to a tree survey made in 1928 about 40 per cent

of the trees in commercial orchards of the region were under 9 years of age.

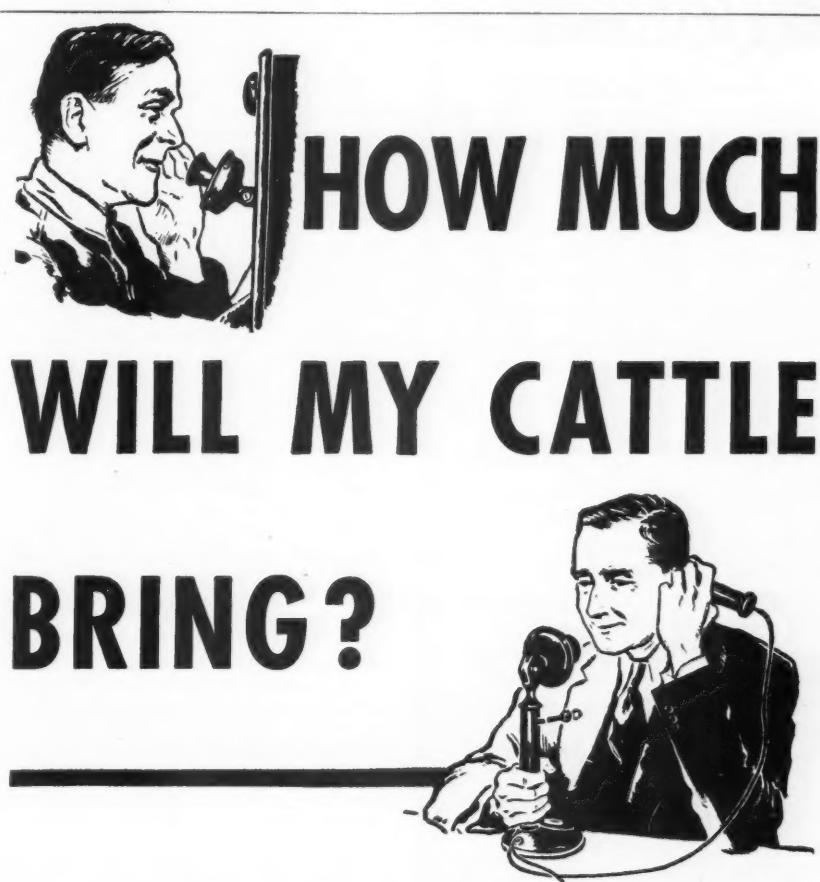
Many of the tree removals in the Central States between 1910 and 1930 were of odd and unpopular varieties. The more recent plantings have been of the more popular varieties, such as the Delicious, Winesap, Jonathan, Stayman Winesap, and Yellow Transparent. In the region as a whole the removal of old trees continues. Recent plantings have been light, and on the whole, there

is no evidence at this time of material contraction or expansion of commercial orchards.

In the Eastern States, which include the New England and the Middle and South Atlantic States, the number of apple trees declined about 24 per cent from 1910 to 1930, and those of bearing age decreased about 17 per cent. At the same time, production fell off about 17 per cent.

These Eastern States in 1930 had about 44 per cent of all apple trees in the United States and produced about 42 per cent of all the apples. The tree survey of 1928 showed that approximately 64 per cent of the apple

(To Page 14)



A FARMER near Disputanta, Virginia, was offered a price for his fat steers which seemed low. He telephoned a packing house in New York and was advised that they should bring at least a cent more. The next day he shipped the cattle and they actually brought a cent and a half more than the first offer. The profit from this single telephone call was \$250.

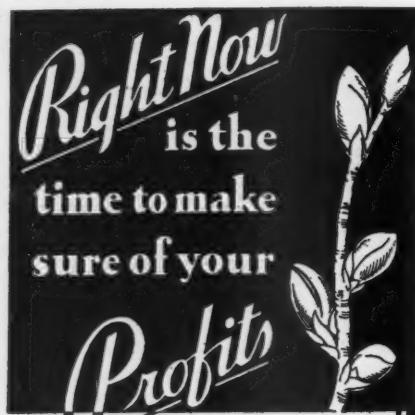
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The Peach Outlook

A DECLINING trend is indicated in the number of bearing peach trees in the Southern States and in California. For most other sections no pronounced changes in the number of bearing trees are anticipated. However, the upward trend in production in Colorado is expected to continue for several years. For the country as a whole very few trees have been planted in the last few years.

The number of bearing trees in southern orchards at present does not seem excessive, if material improvement in market conditions occurs during the next five years. Downward adjustments in acreage may be advisable in some other sections, particularly in the Rocky Mountain and Western States. The rapid development of motor-truck marketing may influence some shifts in producing areas.

The planting of commercial peach trees in the South has been generally at a relatively low rate during the last five years and has apparently averaged less than 4 per cent annually of the present number of trees. It is estimated that with good care, the average life of a peach tree in the South is about 14 years. If orchards are well cared for, it would, therefore, require plantings of 7 per cent of the present number each year to have this number of trees at the end of a 14-year period. In many important Southern peach districts the number of trees removed or abandoned has exceeded the number planted in recent years. Moreover, the period of heavy planting of trees in southern orchards was from 1921 to 1924, and these trees will be from 9 to 12 years old in the spring of 1933. Many of them will decline in productivity or go out of bearing in the next few years. Low returns in recent years have resulted in neglect in care of many orchards, and have tended to discourage replacement plantings.

Notwithstanding the extremely small southern crop in 1932, due largely to adverse seasonal conditions, there are still sufficient bearing trees in the Southern States to produce large crops under average weather conditions. Census figures show that the total number of peach trees in 11 Southern States (North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi, Arkansas, Louisiana, Texas, and Oklahoma), including both commercial and farm orchards, was slightly less than 32,000,000 in 1930. This was a decline of 17 per cent from the number reported in the 1925 census.

In Georgia, peach production averaged 35 per cent of the crop in 11 Southern States in the 4-year period ended in 1932. Approximately 18 per cent of the trees in commercial orchards in Georgia were less than 5 years old in the fall of 1931; 49 per cent were 5 to 9 years old; 29 per cent were 10 to 14 years old, and 4 per cent were more than 14 years old. From the fall of 1930 to the fall of 1931 there was a decrease of 566,000 or 6 per cent in the number of trees in active commercial orchards in that State, and there were also nearly 600,000 additional trees in orchards which were abandoned during the year ended in the fall of 1931. The number of trees planted in Georgia in 1932 has been much lower than the number removed and abandoned. Twenty-eight per cent of the 4,000,000 commercial trees in the southern district of Georgia were under 5 years old in the fall of 1931, compared with 12 per cent of the 4,000,000 trees in the central district, and 2 per cent of the 700,000

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trees in the northern district of that State. There are more old trees over 10 years of age in southern Georgia than in the other parts of the State. Plantings in the southern district of the State in the last few years have been largely Hiley and earlier maturing varieties such as Uneeda and Early Rose.

In both Tennessee and North Carolina only about 10 per cent of the commercial trees were under 5 years old in 1930. Commercial plantings in these States have been light since 1930 and because of abandonment and neglect there has been some decrease in the number of trees. Considerable plantings have been made in South Carolina in recent years. In Arkansas the number of bearing trees is expected to decrease, but it is possible for the production trend to increase in the next few years.

For the region comprising Virginia, West Virginia, Maryland, Delaware, and the North Atlantic States, no great change in the number of bearing trees is expected, but a downward trend in production is indicated for the Eastern Shore of Maryland, and in New Jersey the trend has been downward for several years. In Pennsylvania, a slight increase is indicated, and there is a tendency to shift to the J. H. Hale variety.

In the North Central States, as a whole, the trend in production will probably not change much in the next few years. The census figures show practically the same number of trees in this region in 1930 as in 1925. A decreasing tendency is indicated for Illinois, whereas in Michigan there may be some increase owing to the considerable plantings which were made from 1927 to 1930.

In the Rocky Mountain region the Colorado production has increased rapidly, and the heavy crops of 1931 and 1932 averaged about one-third larger than the crops produced during the previous 5 years. The peak in Colorado production is not expected for several years. The census figures show that the number of trees in three Northwestern States (Washington, Oregon, and Idaho) increased 7 per cent from 1925 to 1930. Plantings since 1930 have been very light. Trees planted in Washington since 1925 have been mostly of the J. H. Hale variety.

The California production of clingstone varieties, which are largely used for canning, is likely to decline considerably during the next few years. Large acreages have been removed in the last 4 years and practically no new plantings have been made since 1930. The acreage of clingstone varieties decreased 30 per cent from 1928 to 1932 but is still excessive for the needs of the canning industry under present demand conditions. The bearing acreage of California freestone varieties, which are used mostly for drying, has not changed much in the last few years.

Roadside Marketing in Maryland

ROADSIDE marketing is developing rapidly in Maryland, according to Maryland Department of Agriculture. Evidence of this was brought out at a meeting of owners of roadside markets held in Baltimore recently. One woman reported that the farm stand which she operates in Montgomery county, adjacent to the District of Columbia, brought their farm more than \$150 in December alone. Another woman, with a similar enterprise at Ellicott City, near Baltimore, reported the development of a business which has become so large that her husband now takes part. Another woman said that the sale of small cartons of hot hominy, at five cents a carton, though not profitable in itself, has brought much trade for other things to her stand. The Maryland group adopted resolutions looking to the forming of an organization and asking the State for a certification system.

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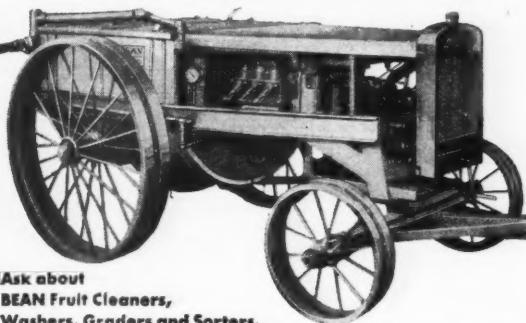
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AMERICAN FRUIT GROWER

Page 13

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New Apple Insect

in Empire State

THE SHARP-NOSED leafhopper (Draeculacephala mollipes) is the newest apple insect to attack New York State orchards. So far, it has also been found in Wayne and Ontario counties, since its discovery in a Tompkins county orchard by college of agriculture students on a class field trip two years ago.

Prof. P. W. Claassen, whose class found the leafhopper, describes the injury to the fruit, "as though a small child dug his fingernails repeatedly through the apple skin." Some apples may have nearly a hundred of these crescent shaped punctures, each filled with about 20 eggs.

The leafhopper is known as the sharp-nosed leafhopper because of its peculiar elongated head. It is bright green in color and the adults are about one-quarter of an inch long. The female thrusts her sword-shaped blades of the egg-laying apparatus through the apple skin. Then she draws the blades back and forth, and since the blades have saw-teeth along the margin, she actually saws the crescent-shaped cut through the skin.

The insects lay eggs in the apples and small twigs, but seldom go higher than three feet from the ground. Where they are fully established, they may ruin practically all of the apples within the three-foot range. They start egg laying late in September and early in October, which gives the fruit grower a chance to pick the early varieties before the insect starts its damage. Clean cultivation of the orchard is the only suggested control so far advised, he says.

Test Shows Cyanamid Keeps Soil Sweet

WHILE the average yields of apples over a period of five years, from trees fertilized with equal amounts of nitrogen supplied by three different carriers, were almost identical, the effect of these fertilizers on the reaction of the soil was markedly different—the pH of the cyanamid-treated soil at the end of the test being 6.8 (practically neutral) as compared with 4.6 (quite acid) for the soil fertilized with sulphate of ammonia.

These results were obtained in a large-scale experiment designed primarily to determine the efficiency of cyanamid under scientifically-controlled conditions, on the farm of Herbert Richardson, Wyoming, Del.

The experimental orchard consisted of a uniform block of trees which averaged from 14 to 15 years of age, and were 20 to 35 inches in circumference at the start of the experiment (1926). It contained the varieties Stayman, Rome, and Nero.

The treatments were replicated, and each included a large number of trees; in fact, from 10 to 15 times as many as are sometimes used in fruit experimentation. The rate of application was 1.07 pounds of nitrogen per tree, derived from each of the nitrogen carriers under test, respectively. All materials were broadcast under the spread of the branches early in the spring about two weeks before blooming.

"Spoilage of Stone Fruits on the Market" is the title of Circular 253, just issued by the U. S. Department of Agriculture. A study of car-lot inspection certificates of the Bureau of Agricultural Economics, shows the spoilage in transit to be largely caused by decay in the form of brown rot and Rhizopus rot, according to the circular.

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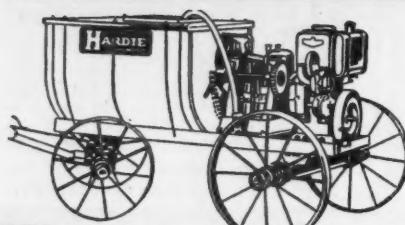
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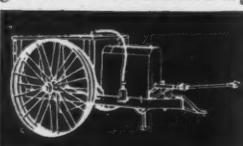
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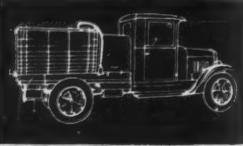
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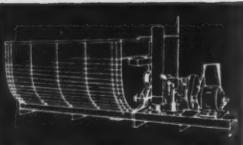
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The 1933 Apple Outlook

(From Page Nine)

trees in commercial orchards in the Eastern States were under 19 years of age, and the census figures of 1930 indicated that 20 per cent of the trees were yet to come into bearing. Shortly after the World War, there was considerable planting of some of the more popular varieties. A decided effort was made in some sections to improve orchard practices and management. The result is that the commercial orchards in the region today, on the whole, are perhaps better suited to the economical production of fruit than was the case 10 or 20 years ago. The nearness to large consuming centers of many apple districts of the Eastern States is an encouraging factor to Eastern producers, especially under present economic conditions.

During the last three years there has been a steady decline in apple prices to growers, owing largely to the rapid shrinkage of consumer purchasing power, some reduction in foreign demand, and the decline in commodity prices. The average farm price per bushel of apples on December 15, 1930, was \$0.99; on December 15, 1931, about \$0.65; and on December 15, 1932, \$0.62.

Since 1929 the cost of some factors of production has declined, as roughly indicated by the following: In the fall of 1932, farm wages in the United States were 52 per cent less than in the fall of 1929; fertilizer prices to farmers were 25 per cent less; prices of barrels 25 to 40 per cent less; of boxes about 20 per cent less; and the general index of machinery prices to farmers was 9 per cent lower than in 1929. The average wholesale price at New York of powdered lead arsenate decreased 14 per cent during the 3 years, 1929-1932. On the other hand, the wholesale price at New York of lime-sulphur solution increased 7 per cent during the same period, and powdered and paste Bordeaux mixture increased 13 and 20 per cent, respectively. In general, transportation charges for rail shipments of apples have remained about stationary during the last three years.

In the five seasons 1926-27 to 1930-31, apple exports from the United States have averaged 16,480,000 bushels, or one-sixth of the total commercial crop. About one-seventh of the commercial barreled-apple crop (including apples in baskets) and one-fifth of the commercial boxed crop were exported during this period.

Exports, as far as quantity is concerned, during the first six months of the 1932-33 season have been about or a little below normal for the size of the crop. These exports have amounted to the equivalent of 8,800,000 bushels, or 10.4 per cent of the commercial apple crop. This compares with 9.6 per cent of the 1931-32 crop and 12.4 per cent of the 1930-31 commercial crop exported in the corresponding months of those seasons. Prospects for the second half of the 1932-33 season appear more encouraging from the supply side than they were during the first six months as European home-grown supplies are practically exhausted. Demand conditions, however, are still at a low level so that prices anything like those which, in the past, resulted from such very short apple supplies as this year seem very unlikely.

As to the long-time export situation, world apple production outside of the United States appears to be on a slightly upward trend. This has resulted in a slight increase in the quantity of apples entering into world trade. Fortunately, there has been an increase in the demand for apples which has tended to offset the increased world supplies. On the other hand, the policy of protecting home industries has made rapid strides in recent years in

many of the chief importing countries. This policy has led to trade-restrictive measures designed to protect home industries. The future of the United States apple export trade will depend to a large extent on the success achieved in stimulating production in foreign countries. Any large diminution in apple exports will adversely affect the future of the American apple industry.

The restrictions of foreign outlets for American apples by embargo, quota, and sanitary regulations, make it absolutely necessary for apple growers and American exporters to make every effort to see that only sound fruit of the better grades is exported.

Oil Emulsions for Scale

(From Page Five)

dormant season. It is very important to cover every part of the tree with the emulsion, as the spray kills only where it hits the scale, and portions of a tree not covered may result in the whole tree, and possibly the whole orchard, being reinfested. The soap emulsions should be used with soft water. The casein emulsion can be used with either soft or hard water. If the soap emulsion breaks down in hard water, add $\frac{1}{4}$ - $\frac{1}{4}$ -50 Bordeaux mixture to the water before putting in the stock emulsion. Tanks that have been used for lime-sulphur spraying must be thoroughly cleaned before they are used for oil-emulsion spraying. Lime-sulphur residue may be removed by running a strong solution of caustic soda through the pumps and by scrubbing the inside of the tank with caustic soda. Examine the stock emulsion for free oil before and after adding water, as free oil indicates the emulsion is unfit for use and should be discarded or reworked. Never let the stock emulsion freeze; it will freeze at a temperature only slightly below the freezing point of pure water.

Apple Marketing Gives Unemployment Relief

A GROUP of 65 unemployed men in Worcester, Mass., were set up in the apple selling business in the winter of 1930-31, assisted by the Worcester County Extension service, the Chamber of Commerce, and the city welfare board. Fred E. Cole, fruit specialist of the county extension service, sponsored the project and supervised its operation. An unemployed man with executive experience was made superintendent of the business; an unemployed bookkeeper kept the accounts, and an unemployed truckman and truck were engaged to make deliveries to the vendors.

Each vendor was assigned a stand at some point in the city or at a factory on the outskirts. Only apples of the highest quality were sold. From December to April, sales aggregated 4,255 bushels of locally grown apples and about 145 boxes of oranges, grossing \$20,474. The vendors had a profit of \$11,229. The following winter, the force of vendors had to be reduced to 30, because many of the factories were closed, but sales amounted to a little more than \$15,000, with profits of almost \$6,500 to the vendors.

If we understand the experts correctly, rigid economy is the process by which we cut down expenses so that we can produce more cheaply and easily the things we have too many of already.—*The South African Fruit Grower*.

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